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Food and Agriculture Organization of the United Nations

**GLOBAL FOREST RESOURCES
ASSESSMENT 2010**

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The Forest Resources Assessment Programme

Sustainably managed forests have multiple environmental and socio-economic functions important at the global, national and local scales, and play a vital part in sustainable development. Reliable and up-to-date information on the state of forest resources - not only on area and area change, but also on such variables as growing stock, wood and non-wood products, carbon, protected areas, use of forests for recreation and other services, biological diversity and forests' contribution to national economies - is crucial to support decision-making for policies and programmes in forestry and sustainable development at all levels.

FAO, at the request of its member countries, regularly monitors the world's forests and their management and uses through the Forest Resources Assessment Programme. This country report forms part of the Global Forest Resources Assessment 2010 (FRA 2010).

The reporting framework for FRA 2010 is based on the thematic elements of sustainable forest management acknowledged in intergovernmental forest-related fora and includes variables related to the extent, condition, uses and values of forest resources, as well as the policy, legal and institutional framework related to forests. More information on the FRA 2010 process and the results - including all the country reports - is available on the FRA Web site (www.fao.org/forestry/fra).

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The Global Forest Resources Assessment Country Report Series is designed to document and make available the information forming the basis for the FRA reports. The Country Reports have been compiled by officially nominated country correspondents in collaboration with FAO staff. Prior to finalisation, these reports were subject to validation by forestry authorities in the respective countries.

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1 Table T1 – Extent of Forest and Other wooded land

1.1 FRA 2010 Categories and definitions

Category	Definition
Forest	Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds <i>in situ</i> . It does not include land that is predominantly under agricultural or urban land use.
Other wooded land	Land not classified as “Forest”, spanning more than 0.5 hectares; with trees higher than 5 meters and a canopy cover of 5-10 percent, or trees able to reach these thresholds <i>in situ</i> ; or with a combined cover of shrubs, bushes and trees above 10 percent. It does not include land that is predominantly under agricultural or urban land use.
Other land	All land that is not classified as “Forest” or “Other wooded land”.
Other land with tree cover (Subordinated to “Other land”)	Land classified as “Other land”, spanning more than 0.5 hectares with a canopy cover of more than 10 percent of trees able to reach a height of 5 meters at maturity.
Inland water bodies	Inland water bodies generally include major rivers, lakes and water reservoirs.

1.2 National data

1.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Forestry department Fiji. NFI Report 1993	H	Natural Forest Plantations Coconut Mangroves	1991	1991 National Forest Inventory Report
Forestry Department Annual Reports	H	Pine Plantation areas Mahogany Plantation areas	1990 - 1992 1996-1998 2000	Appendix 1 of the Report Pines (Plantation lease in T2) Mahogany (Crown lease in T2)
Ministry of Agriculture. 1998. GTZ Pacific regional forestry project	H	Forest Statistics Areas Volumes Fires Imports Exports	1998	Forestry Facts and Figures Basic forest statistics
Fiji Pine Limited. Annual Report. Chief Executive Officers Report	H	Plantations	1999 2002	
Forestry department Fiji. 2002. Unpublished NFI report.	H	Natural forest, plantation	2002	Forest Area Calculations stored in Excel spreadsheet (NFI Summary.xls)
Forestry department Fiji. NFI Report 1993	H	Natural Forest Plantations Coconut Mangroves	1993	2008 National Forest Inventory Report
Forestry department Fiji. NFI Report 2008		Natural Forest Plantations Coconut Mangroves	2009	2008 National Forest Inventory Report
FAOSTAT. 2009	M	Inland water bodies		

1.2.2 Classification and definitions

National class	Definition
Closed Forest	Natural forest with crown cover by trees and / or ferns 40-100% and ground coverage by, palm and / or bamboo over 20%
Open Forest	Natural forest with crown cover by trees and / or ferns 10-40% and ground coverage by, palm and / or bamboo 50-80%
Forest Plantations	Man made forests with planted tree species
Mangrove forest	Forest occurring below the high tide water mark with high occurrence of mangrove species
Coconut plantations	Areas under coconut plantations
Non-Forest	All other land that does not qualify under any of the forest classifications
Inland Water bodies	Land areas covered under major rivers, lakes, and water dams

1.2.3 Original data

National class (1000 ha)	1990	1991	1992	1996	1997	1998	2002	2007
Closed Forest		704.856						556.385
Open Forest		152.665						342.845
Pine plantations	43.63	49.62	51.56	51.38	51.38	52.88	48.59	93.524
Hardwood plantations	36.24	39.22	41.64	50.23	50.69	51.4	52.33	60.448
Coconut plantations		34.56						27.137
Non-forests								629.835
Inland water								19.208
Total land area		946.361 *						1,729

*Excludes area of coconut plantations.

Comments:

Fiji now has a new forest definition which was used during the latest NFI which was carried out from 2006-2008. Under the new forest definition, the former Dense and Medium Dense Forest classes are now combined to form the current forest class “Closed Forest”; the former class “Scattered Forest” is now called “Open Forest”. Therefore, the row “Closed Forest” in table 1.2.3, is the total of the old classes “Dense and Medium Dense Forests” in years 1991 and 2007.

The classes “Non Forests” and “Inland Water Bodies” are now calculated for the first time and therefore did not appear in the 1991 data.

Forest Areas are calculated using satellite data recorded in 2000, NFI mapping and field verification were done from 2006-2008, the dataset is referred to as 2007 dataset.

1.3 Analysis and processing of national data

1.3.1 Calibration

National class (1000 ha)	1000 hectares
Closed Forest	556.385
Open Forest	342.845
Pine plantations	93.524
Hardwood plantations	60.448
Coconut plantations	27.137
Non-forests	629.835
Inland water	19.208
Total land area	1,729

Calculating the calibration Factor

Total land area according to FAOSTAT	1 827
Calibration factor	1.05644675

Calibrated National data

National class (1 000 ha)	1 000 hectares
Closed Forest	587.791
Open Forest	362.198
Pine plantations	98.803
Hardwood plantations	63.860
Coconut plantations	28.669
Non-forests	665.387
Inland water	20.292
Total land area	1,827

1.3.2 Estimation and forecasting

Estimation

National class (1000 ha)	1991	2007	Δ Area	Num of yrs	Δ/year
Closed Forest	704.856	587.791	-117.065	16	-7.3166
Open Forest	223.53	362.198	138.668	16	8.666
Pine plantations	49.62	98.803	49.183	16	3.074
Hardwood plantations	39.22	63.860	24.64	16	1.54
Coconut plantations	34.56	28.669	-5.891	16	-0.368
Non-forests		665.387			0
Inland water		20.292			0
Total land area		1,827			

Comments:

The data for 1991 and 2007 are now the two most reliable sets of forest area data from which a linear forest area extrapolation for 1990, and 2010 was done, and also the interpolation for the 2000 and 2005 forest areas, since these are actual NFI years and the figures are from the actual NFI datasets within those two years.

The total increase in open forests of 138668 hectares in 16 years comes from two sources: the reduced closed forest area of 117,065 hectares; and the balance of 21603 come from the areas that were defined as non forest during the 1991 NFI but are now defined as forest under the new Fiji forest definition, these balance area may seem small, the rest may have disappeared due to deforestation through agricultural activities. The re-defined threshold for forest is from 4 hectares in the 1991 NFI down to 0.5 hectares in the 2007 NFI.

Forecasting

National class (1000 ha)	1990	2000	2005	2010
Closed Forest	702.747	639.0066	602.4236	565.8406
Open Forest	225.639	301.524	344.854	388.184
Pine plantations	52.363	77.286	92.656	108.026
Hardwood plantations	39.797	53.08	60.78	68.48
Coconut plantations	34.297	31.248	29.408	27.568
Non-forests		685.679	685.679	685.679
Inland water	21.484			
Total land area	1,827	1,827	1,827	1,827

1.3.3 Reclassification into FRA 2010 categories

National classes	Forest	OWL	Other Land	OLWTC
	Closed forest	100%		
Open forest	70%	20%		10%
Pine plantation	100%			
Hardwood plantation	100%			
Coconut Plantation				100%

Comments:

The Fiji NFI uses Landsat 7 satellite data for the classification of forest areas of everything with tree cover starting from 0.5 hectares and above from which forests are further categorised into the two forest density classes of Closed and Open forests.

The figures maintained by FAOSTAT have been used for reporting on Inland water bodies.

1.4 Data for Table T1

FRA 2010 categories	Area (1000 hectares)			
	1990	2000	2005	2010
Forest	952.9	980.44	997.26	1014.08
Other wooded land	45.1	60.3	68.97	77.64
Other land	829.0	786.26	760.77	735.28
...of which with tree cover	56.9	61.4	63.893	66.39
Inland water bodies	0	0	0	0
TOTAL	1,827	1,827	1,827	1,827

The Forest areas is derived from the calibrated forest area stats for which it comprises of Closed Forest, Plantations (Pine and Hardwood) and 70% of Open Forest. The other wooded land (OWL) is dominantly 20% of open forest. The other land with tree cover (OLWTC) is 10% of Open Forest and Coconut plantations.

1.5 Comments to Table T1

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Forest	An area of approximately 40 000 hectares of mangroves is not included in the total forest area. The reason for exclusion is that the area of mangroves is not included in the total land area.	The total increase in open forests of 138668 hectares in 16 years comes from two sources: the reduced closed forest area of 117,065 hectares; and the balance of 21603 come from the areas that were defined as non forest during the 1991 NFI but are now defined as forest under the new Fiji forest definition, these balance area may seem small, the rest may have disappeared due to deforestation through agricultural activities. The re-defined threshold for forest is from 4 hectares in the 1991 NFI down to 0.5 hectares in the 2007 NFI.
Other wooded land		
Other land	Calculated as total land area less area of Forest and area of Other wooded land.	
Other land with tree cover		
Inland water bodies	The total area of Fiji includes approximately 21 (1000 ha) of inland water bodies.	Since there was no data available for the years before 2008, the 2008 value was used for the rest of the years back to 1990.

Other general comments to the table

The mapping exercise and data validation for the 2008 NFI is still to be finalised, a more refined version for T1 may appear in the FRA 2015 report.

Expected year for completion of ongoing/planned national forest inventory and/or RS survey / mapping

Field inventory	2008
Remote sensing survey / mapping	2009

2 Table T2 – Forest ownership and management rights

2.1 FRA 2010 Categories and definitions

Category	Definition
Public ownership	Forest owned by the State; or administrative units of the public administration; or by institutions or corporations owned by the public administration.
Private ownership	Forest owned by individuals, families, communities, private co-operatives, corporations and other business entities, private religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions.
Individuals (sub-category of Private ownership)	Forest owned by individuals and families.
Private business entities and institutions (sub-category of Private ownership)	Forest owned by private corporations, co-operatives, companies and other business entities, as well as private non-profit organizations such as NGOs, nature conservation associations, and private religious and educational institutions, etc.
Local communities (sub-category of Private ownership)	Forest owned by a group of individuals belonging to the same community residing within or in the vicinity of a forest area. The community members are co-owners that share exclusive rights and duties, and benefits contribute to the community development.
Indigenous / tribal communities (sub-category of Private ownership)	Forest owned by communities of indigenous or tribal people.
Other types of ownership	Other kind of ownership arrangements not covered by the categories above. Also includes areas where ownership is unclear or disputed.
Categories related to the holder of management rights of public forest resources	
Public Administration	The Public Administration (or institutions or corporations owned by the Public Administration) retains management rights and responsibilities within the limits specified by the legislation.
Individuals/households	Forest management rights and responsibilities are transferred from the Public Administration to individuals or households through long-term leases or management agreements.
Private institutions	Forest management rights and responsibilities are transferred from the Public Administration to corporations, other business entities, private co-operatives, private non-profit institutions and associations, etc., through long-term leases or management agreements.
Communities	Forest management rights and responsibilities are transferred from the Public Administration to local communities (including indigenous and tribal communities) through long-term leases or management agreements.
Other form of management rights	Forests for which the transfer of management rights does not belong to any of the categories mentioned above.

2.2 National data

2.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Lands Department Fiji	H		2009	Land tenure definitions
Native Lands Trust Board	H		2009	Land tenure definitions

2.2.2 Classification and definitions

National class	Definition
Native Land	Land communally owned by indigenous land owners.
State Land	Land owned by the Government.
Freehold Land	Land owned (bought outright) by individuals
Leased Land	The land on which the two large plantations (mahogany & pine) are leased by the company from indigenous owners.

2.2.3 Original data

National Classes (1000ha.)	Freehold	Native	State	Total
Closed	31.958	523.938	27.737	583.631
Open	23.172	182.664	12.756	218.59
Plantation	10.531	100.813	16.510	127.853
Coconut	4.537	8.517	0.228	13.281
Non Forest	108.684	489.362	43.582	641.627
Inland Water	0	0	0	0
Total	178.882	1,305.293	100.814	1,584.988

Comments: The above table is obtained from area calculations from the Forestry Land tenure GIS layers, however at the end, the totals don't add up to the national land area total. This will need another calibration of the dataset to increase the total area by 242 012 hectares.

It is understood that 85% of the total land area for Fiji is communally owned by natives. The total land area under the Native category in the above table only account for 71% of the total land area. Thus it is clear that the total Native land area needs to be increased. The data acquired for this forest statistics is extracted from seven islands and the other 39% can be accounted for the other islands which was not undertaken in this exercise. Since most of the land is communally owned, some selected areas are not surveyed as in this case due to pending ownership issues.

2.3 Analysis and processing of national data.

2.3.1 Calibration

Classes (1000 ha)	Tenure Areas
Closed Forest	583.631
Open Forest	218.593
Plantation	127.854
Coconut	13.282
Non Forest	640.583
Inland Water	1.045
Total	1,584.988

Calibrating the dataset:

Classes (1000 ha)	Tenure Areas (A)	Calibrated Forest Areas (B)	Difference (C) (B-A)
Closed Forest	583.631	587.791	4.160
Open Forest	218.59	362.198	143.608
Plantation	127.854	162.663	34.809
Coconut	13.282	28.669	15.388
Non Forest	640.583	665.387	24.804
Inland Water	1.045	20.292	19.248
Total	1,584.988	1827.000	242.014

Comments:

Tenure Area (A): Area calculated from the GIS Forest Layers

Calibrated Area (B): Total Calibrated Forest Area from T1

Difference (C), (B-A): This difference are added to the Native land areas to bring it up to around 85% of total land area and also to match the forest areas in T1 and T2.

Calibrated dataset:

Classes	Freehold	Native	State	Total
Closed	31.958	528.10	27.737	587.795
Open	23.172	326.268	12.756	362.196
Plantation	10.531	135.619	16.510	162.66
Coconut	4.537	23.908	0.228	28.673
Non Forest	108.448	513.444	43.496	665.388
Inland Water	0.236	19.97	0.086	20.292
Total	178.882	1,547.309	100.814	1,827
%	10%	85%	6%	

Increases are done only for the Native forest area.

2.3.2 Reclassification into FRA 2010 categories

FRA Categories	Freehold	Native	State
Public ownership			100%
Private Ownership	100%	100%	
...of which owned by individuals	100%		
...of which owned by private business entities			
... of which owned by local communities			
... of which owned by indigenous tribal communities		100%	
Other types of ownership			

2.4 Data for Table T2

Table 2a - Forest ownership

FRA 2010 Categories	Forest area (1000 hectares)		
	1990	2000	2005
Public ownership	53.176	53.176	53.176
Private ownership	899.724	927.264	944.084
...of which owned by individuals	n.a.	n.a.	58.709
...of which owned by private business entities and institutions	n.a.	n.a.	0
...of which owned by local communities	n.a.	n.a.	0
...of which owned by indigenous / tribal communities	n.a.	n.a.	885.375
Other types of ownership	n.a.	n.a.	0
TOTAL	952.9	980.44	997.26

The total area of land under public ownership (ie owned by the state), and those under freehold ownership has been decreasing since 1990 and the reason for this is that Government has been returning to the rightful owners the land that had been acquired from them when Fiji was a British Colony. So for 1990 there would be slightly more land under state ownership and freehold ownership, and slightly less under Native ownership. This includes both land under forests and those not under forests. Around 3% of total land area has shifted from State to Private (into Native Land) since 1990 as part of government long term strategy to revert the ownership of land to the rightful owners for those land that were unfairly bought.

Since historical figures are not available on land tenure it would be impossible to do fill back to 1990, but for the FRA 2015 T2 will have a trend for 5 years. This is the same for T2 and T2b, the same values that is calculated for 2008 are used for the year 2005.

Does ownership of trees coincide with ownership of the land on which they are situated?		Yes
	√	No
If No above, please describe below how the two differ:		
In the mahogany and pine plantations, the companies leased the land for which the plantations are grown. As the result the Forest Companies owns the trees while the indigenous/ tribal owners own the land.		
Government owns 90% share in the mahogany plantation and over 98% in the pine plantation the rest are owned by indigenous landowners		

Table 2b - Holder of management rights of public forests

FRA 2010 Categories	Forest area (1000 hectares)		
	1990	2000	2005
Public Administration	n.a.	n.a.	53.176
Individuals	n.a.	n.a.	0
Private corporations and institutions	n.a.	n.a.	0
Communities	n.a.	n.a.	0
Other	n.a.	n.a.	0
TOTAL	n.a.	n.a.	53.176

2.5 Comments to Table T2

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Public ownership	Mainly state land or previously termed “crown” land which was brought about on the day of Colonialism for which land were subject to the Crown or the government.	Tenure classified as Stateland remains static for most State land are legally binded to remain with the State.
Private ownership	Private ownership can also be Freehold land, for which the land belongs to the individual(s).	Tenure classified as Freehold lands remain static, Freehold land does not get re-classified but remain within the control of the owner.
Other types of ownership	Communal Ownership can also be classified as Private ownership for which the land is managed by the <i>mataqali</i> or clan.	Tenure under the Communal Ownership remains static.
Management rights	Communities are responsible for management and decision making with regards to the utilisation of their land and forest resources.	Government is in the process of reverting land ownership rights to the original owners.

Other general comments to the table

Description for all types of land tenure was obtained from the Fiji Department of Lands in 2009, including the general trend in the reversion of land ownership from private individuals whom are mostly foreigners to the indigenous owners.

3 Table T3 – Forest designation and management

3.1 FRA 2010 Categories and definitions

Term	Definition
Primary designated function	The primary function or management objective assigned to a management unit either by legal prescription, documented decision of the landowner/manager, or evidence provided by documented studies of forest management practices and customary use.
Protected areas	Areas especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.
Categories of primary designated functions	
Production	Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products.
Protection of soil and water	Forest area designated primarily for protection of soil and water.
Conservation of biodiversity	Forest area designated primarily for conservation of biological diversity. Includes but is not limited to areas designated for biodiversity conservation within the protected areas.
Social services	Forest area designated primarily for social services.
Multiple use	Forest area designated primarily for more than one purpose and where none of these alone is considered as the predominant designated function.
Other	Forest areas designated primarily for a function other than production, protection, conservation, social services or multiple use.
No / unknown	No or unknown designation.
Special designation and management categories	
Area of permanent forest estate (PFE)	Forest area that is designated to be retained as forest and may not be converted to other land use.
Forest area within protected areas	Forest area within formally established protected areas independently of the purpose for which the protected areas were established.
Forest area under sustainable forest management	To be defined and documented by the country.
Forest area with management plan	Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, which is periodically revised.

3.2 National data

3.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Forestry Department Fiji 1991 National Forest Inventory	H	Forest Areas	1991	Total forest area for the different forest functions.
Forestry Department Fiji. 2002.	H	Forest plantation	2002	Forest area calculations stored in Excel Spreadsheet (NFI Summary.xls).
FIJI'S RAINFORESTS Our Heritage our future: Proceedings Vol.2 by Drysdale, P.J.	H	Forest Areas	1988	A general description of the nature and extent of Fiji's forests and plantation forests.
National Biodiversity Strategy and Action Plan (NBSAP)	H	Forest Conservation areas	2007	The document is compiled under the CBD action strategy for Fiji. Contains forest areas earmarked for conservation activities in Fiji.

3.2.2 Classification and definitions

National class	Definition
Plantation forest	Man made forests, established for the production of industrial wood; includes all mahogany and pine plantations.
Preserved Forest	Areas of natural forest to be maintained in an undisturbed natural condition for the preservation of biological values. It includes all biodiversity forest conservation areas, forest parks and forest reserves.
Protection Forest	Areas of forest with 30 degrees slope and above. Timber harvesting or other forestry operations would be restricted to minor forest products or to manual or non-mechanized timber extraction.
Multiple Use Natural Forest	Areas of forests that does not fall under any of the three above, and carrying indigenous forest vegetation to be maintained under forest cover and to be managed for the purpose of timber production, catchment protection, wildlife habitat, forest recreation and amenity uses and for minor forest products..

3.2.3 Original data

(Area units:1000hectares)

The data for the table T3 is the result of a calculation that is based from the forest areas calculated in T1. The data for the following FRA categories are obtained:

“**Production**”: The data source for the FRA category “Production” in T3 is the calibrated areas from T1 for the four years which includes all plantation areas for pines and mahogany.

“**Protection of soil and water**”: The area under this category remains the same from the previous estimate.

“**Conservation of biodiversity**”: The area under conservation of biodiversity is also the same area as that of 1990.

3.3 Analysis and processing of national data

The total area under “production forest” is the total areas of pine and mahogany plantations for the four years.

Areas classified under protection forests are the same from 1990 to 2005, and decreases for 2010 as the definition for protection forest under the 2008 NFI has changed to only include slope (>30 deg) but includes other factors as: soil erosivity; rainfall seasonality, and rainfall intensity.

Area under Multiple Use is calculated for the years 1990 to 2005 but comes straight from the NFI dataset for the year 2007 projected to 2010.

3.3.1 Calibration

There is no need to calibrate the area of plantations. The total of Protection natural forest areas, Preserved natural forest areas and multiple use forest is calibrated with the T1 forest area less area of plantations.

Calibrated national data:

Since the areas for Production, Protection, and Preserved Forests, are known, only the area of the multiple use is calibrated to match up the national forest area from T1 which includes area of Forest and Other Wooded Land.

National Classes	Forest (1000 hectares)		
	1990	2000	2005
Production Forests	85.716	116.957	132.578
Protection Forests	304.200	304.200	304.200
Preserved Forests	68.800	68.800	88.800
Multiple Use Forests	465.701	501.233	498.999
Total	924	991	1,025

3.3.2 Estimation and forecasting

The projections for 2010 are straight from the 2007 NFI figures for the: Protection; Preserved; and Multiple Use. Except for the Production Forest which is from the calibrated estimate from T1.

FRA Categories	Forest (1000 hectares)			
	1990	2000	2005	2010
Plantation Forests	85.716	116.957	132.578	176.505
Protection Forests	304.200	304.200	304.200	92.076
Preserved Forests	68.800	68.800	88.800	88.800
Multiple Use Forests	465.701	501.233	498.999	780.563
Total	924	991	1,025	1137.944

3.3.3 Reclassification into FRA 2010 categories

National class	Primary function				
	Prod.	Prot. soil & water	Cons. biodiv.	Soc. Ser.	Mult. Purp.
Plantation Area	100%				
Multiple Use Natural Forest					100%
Protection Natural Forest		100%			
Preserved Natural Forest			100%		

3.4 Data for Table T3

Table 3a – Primary designated function

FRA 2010 Categories	Forest area (1000 hectares)			
		2000	2005	2010
Production	90	130	153	177
Protection of soil and water	304	304	304	92
Conservation of biodiversity	69	69	89	89
Social services	0	0	0	0
Multiple use	489.9	477.44	451.26	656.08
Other (please specify in comments below the table)	0	0	0	0
No / unknown	0	0	0	0
TOTAL	952.9	980.44	997.26	1014.08

Table 3b – Special designation and management categories

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Area of permanent forest estate	0	0	0	0
Forest area within protected areas	304	304	304	92
Forest area under sustainable forest management	0.3	6.3	6.3	6.3
Forest area with management plan	0.3	6.3	6.3	6.3

3.5 Comments to Table T3

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Production		The increase in the plantation areas is due to the expansion in the planting programme in mahogany and pine during the period 1990 to 2005.
Protection of soil and water		The reduction in the area classified as protection forest is due to the change in definition. During the 2008 NFI, protection forests only includes forest areas of 30 degrees and above, however, in 1991 it also includes other factors as rainfall, soil erosivity, and rainfall intensity, so the area covered was much larger.
Conservation of biodiversity		In 2005 another 20,000 ha was added to the area of conservation forest, but in 2010 the total area of protected area in Fiji will dramatically increase due to current boost in conservation activities in the country.
Social services		
Multiple use		The increase is due to the re-classification of forest area in 2007 in which only slope classes was used to classify Protection Forest Areas whereas in 1991 NFI slope was used with other factors such as rainfall and soil erodibility which increases the area.
Other		
No / unknown designation		
Area of permanent forest estate	Fiji does not have a Permanent Forest Estate	
Forest area within protected areas		
Forest area under sustainable forest management	Around 6,300 hectares from the forest area under multiple use is under SFM. This is a SFM project model site.	
Forest area with management plan	The same area of 6,300 hectares above also has a forest management plan since 2005. This is a SFM project model site.	

Other general comments to the table

Certain Forest Reserve areas were de-reserved in the last 3 years this does not change its status of protection on a National Scale. It is only reverted from State to Native for which lease will be paid to the landowners.

4 Table T4 – Forest characteristics

4.1 FRA 2010 Categories and definitions

Term / category	Definition
Naturally regenerated forest	Forest predominantly composed of trees established through natural regeneration.
Introduced species	A species, subspecies or lower taxon, occurring <u>outside</u> its natural range (past or present) and dispersal potential (i.e. outside the range it occupies naturally or could occupy without direct or indirect introduction or care by humans).
Characteristics categories	
Primary forest	Naturally regenerated forest of native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.
Other naturally regenerated forest	Naturally regenerated forest where there are clearly visible indications of human activities.
Other naturally regenerated forest of introduced species (sub-category)	Other naturally regenerated forest where the trees are predominantly of introduced species.
Planted forest	Forest predominantly composed of trees established through planting and/or deliberate seeding.
Planted forest of introduced species (sub-category)	Planted forest, where the planted/seeded trees are predominantly of introduced species.
Special categories	
Rubber plantations	Forest area with rubber tree plantations.
Mangroves	Area of forest and other wooded land with mangrove vegetation.
Bamboo	Area of forest and other wooded land with predominant bamboo vegetation.

4.2 National data

4.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Fiji NFI Report 2008	H	Forest Areas		The 2008 NFI report is yet to be published in mid 2009

4.2.2 Classification and definitions

National class	Definition
Mangroves	All land that lies below the High Tide Water Mark also known as “Crown Foreshore” mainly comprised of mangrove species
Coconut	Mainly agricultural land cultivated with coconut palms

Please refer to T1 and T3 for the rest of the forest definitions.

4.2.3 Original data

Calibrated data on forests from T1

National class (1000 ha)		2000	2005	2010
Closed Forest	702.747	639.0066	602.4236	565.841
Open Forest	225.639	301.524	344.854	388.198
Pine plantations	52.363	77.286	92.656	108.025
Hardwood plantations	39.797	53.08	60.78	68.480
Total area	1021	1071	1101	1131

Original data on mangroves

National Class	Area (1000 hectares)	
	1991	2007
Mangrove forest	42.000	38.742

4.3 Analysis and processing of national data

4.3.1 Calibration

No need for calibration of mangrove data and forest areas from T1 are already calibrated

4.3.2 Estimation and forecasting

This needs to be done only for mangroves as Forests and OWL are done from T1

Estimating the change in mangrove area

National class (1000 ha)	1991	2007	Δ Area	Num of yrs	Δ/year
Mangroves	42.000	38.742	-3.258	17	-0.19165

Forecasting area change in mangroves

National Class	Area (1000 hectares)			
	1990	2000	2005	2010
Mangroves	41.808	39.892	38.934	37.98

4.3.3 Reclassification into FRA 2010 categories

National Categories	FRA 2010 Categories		
	Primary Forest	Other Naturally Regenerated Forests	Planted Forest
Closed Forest	60%	40%	
Open Forest	20%	80%	
Pine plantations			100%
Hardwood plantations			100%

Other naturally regenerated forests are all native species

Only 70% of the total area of open forest are classified as forest from T1 the rest falls under OWL (20%) and OLWTC (10%)

Pine and Hardwood plantations are all introduced species

All mangroves under the National category are classified as mangroves under the FRA2010 category.

4.4 Data for Table T4

Table 4a Characteristics

FRA 2010 categories	Area (1000 hectares)			
	1990	2000	2005	2010
Primary Forest	489.513	445.362	448.402	449.375
Other naturally regenerated forest	371.227	404.712	395.422	388.199
...of which of introduced species	0	0	0	0
Planted Forest	92.16	130.366	153.436	176.506
...of which of introduced species	92.16	130.366	153.436	176.506
TOTAL	952.9	980.44	997.26	1014.08

Table 4b Special Categories

FRA 2010 Categories	Area (1000 hectares)			
	1990	2000	2005	2010
Rubber plantations (Forest)	0	0	0	0
Mangroves (Forest and OWL)	86.908	100.192	107.904	115.62
Bamboo (Forest and OWL)	0	0	0	0

Mangrove areas are added together with OWL for the reporting years

4.5 Comments to Table T4

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Primary forest		
Other naturally regenerating forest		
Planted forest	The two main plantation hardwood (mahogany) and softwood (pine).	
Rubber plantations		
Mangroves		Mangroves are also included in the Other Wooded Land thus the increase in Table 4B. The increase is the inclusion of 20% of the Open Forest as derived in T1.
Bamboo		There is no data collected for bamboo.

Other general comments to the table

5 Table T5 – Forest establishment and reforestation

5.1 FRA 2010 Categories and definitions

Term	Definition
Afforestation	Establishment of forest through planting and/or deliberate seeding on land that, until then, was not classified as forest.
Reforestation	Re-establishment of forest through planting and/or deliberate seeding on land classified as forest.
Natural expansion of forest	Expansion of forests through natural succession on land that, until then, was under another land use (e.g. forest succession on land previously used for agriculture).

5.2 National data

5.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Forestry Dept annual Report ,Fiji Pine Limited Area System	H	Fiji Pine Forested Areas	1990 -2007	
Forestry Dept Annual Report	H	Fiji Hardwood Cooperation Forested Areas	1990 - 2007	
Forestry Dept Annual Report	H	Fiji Pine Trust Forested Areas	1990-2007	

5.2.2 Classification and definitions

National class	Definition
Afforestation	Establishment of forest through planting programme on land that, until then, was not classified as forest.
Reforestation	Re establishment of forests through planting programme and or deliberate seedling on land classified as forest.
Natural expansion of forests	Expansion of forest through natural succession on land that, until then, was under another land use (forest succession on land previously used for agriculture

Original data

5.2.3 Calibrated National data

National class (1 000 ha)	1 000 hectares
Closed Forest	587.791
Open Forest	362.198
Pine plantations	98.803
Hardwood plantations	63.860
Coconut plantations	28.669
Non-forests	685.679
Inland water	0
Total land area	1,827

* Calibrated data from T1.

National class (1000 ha)	1990	1991	1992	1996	1997	1998	2002	2007
Fiji Pine Limited plantations	0.622	0.921	1.246	1.499	1.698	2.053	4.109	1.250
Fiji Hardwood plantations	4.714	2.986	3.122	2.298	1.231	0.000	4.407	0.044
Fiji Pine Extension Plantation	0.441	0.215	0.339	0.491	0.372	0.000	0.000	0.050
Forestry Dept Extension Division	0.000	0.000	0.000	0.000	0.000	0.015	0.111	0.000

*Data extracted from Forestry Department Annual Report 1990-2007

National class (1000 ha/year)	1990	2000	2005
Fiji Pine Limited plantations	0.930	3.081	1.250
Fiji Hardwood plantations	3.607	2.204	0.044
Fiji Pine Extension Plantation	0.332	0.000	0.050
Forestry Dept Extension Division	0.000	0.063	0.000

* Data are in accordance to average of five years! (1988-1992: 1990), (1998-2002: 2000), (2003-2007), 2005

5.3 Analysis and processing of national data

5.3.1 Calibration

There is no calibration for this table as data is average for the years.

5.3.2 Estimation and forecasting

Afforestation

National class (1000 ha/year)	1990	2000	2005
Fiji Pine Limited plantations	0.930	3.081	1.250
Fiji Pine Extension Plantation	0.332	0.000	0.050
Total afforestation	1.262	3.081	1.300

Reforestation

National class (1000 ha/year)	1990	2000	2005
Fiji Hardwood plantations	3.607	2.204	0.044
Forestry Dept Extension Division	0.000	0.063	0.000
Total reforestation	3.607	2.267	0.044

5.3.3 Reclassification into FRA 2010 categories

5.4 Data for Table T5

FRA 2010 Categories	Annual forest establishment (hectares/year)			...of which of introduced species (hectares/year)		
	1990	2000	2005	1990	2000	2005
Afforestation	1262	3081	1300	1262	3081	1300
Reforestation	3607	2267	44	3607	2267	44
...of which on areas previously planted	920	988	n.a.	920	988	n.a.
Natural expansion of forest	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Note: The figures for the reporting years refer to the averages for the 5-year periods 1988-1992, 1998-2002 and 2003-2007 respectively.

5.5 Comments to Table T5

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Afforestation	Data acquired from the Fiji Pine Limited for new planting or extend of pine areas. These are introduced species <i>Pinus caribaea</i> .	The Afforestation in the trend showing is increasing due to various barren lands or grassland being afforested.
Reforestation	The reforestation of Hardwood plantation which is mainly of <i>Swietenia Macrophylla</i> (Mahogany) introduced species not native to Fiji.	Highlights decreasing trend since reforesting of Hardwood Plantation starts to decline after 1998.
Natural expansion of forest	There is no data that is relevant for this definition due to the change in classification over the years in the last National Forest Inventory from deriving forest in crown density to canopy cover there has been no work carried out to determine the natural expansion of forest.	No trends reported on no data available.

Other general comments to the table

The data obtained for the Reforestation and Afforestation is acquired from the forest related organisations that has leased land for which will be allocated for plantation purposes. Data for Afforestation is acquired from Fiji Pine Limited which manages a large area of pine/softwood plantations and reforestation acquired from Fiji Hardwood Corporation Limited which manages the Mahogany plantations. Data are also acquired from the Extension Division within the Forestry Department which facilitates the nursery for various indigenous species in the provision of seedlings which are readily available at a cost.

6 Table T6 – Growing stock

The 2007 NFI data collection was lesser comprehensive than the 1991 NFI. Information on upper bole diameters and top end diameters including branch sizes were not collected. Thus there is insufficient data to calculate growing stock for T6, Biomass for T7, and Carbon stock for T8.

7 Table T7 – Biomass stock

Information is not available for this reporting table.

8 Table T8 – Carbon stock

Information is not available for this reporting table.

9 Table T9 – Forest fires

Information is not available for this reporting table.

10 Table T10 – Other disturbances affecting forest health and vitality

Information is not available for this reporting table.

11 Table T11 – Wood removals and value of removals

11.1 FRA 2010 Categories and definitions

Category	Definition
Industrial roundwood removals	The wood removed (volume of roundwood under bark) for production of goods and services other than energy production (woodfuel).
Woodfuel removals	The wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.

11.2 National data

11.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
DOF Annual Report	H	Log Volumes	1990,2007	Appendix III Timber Production Statistics – 1990 to 2007
Divisional Reports	H	Minor forests produce & Commercial undertaking	1990,2007	Annual Report

11.2.2 Classification and definitions

National class	Definition
Industrial wood removal	Includes all round wood removals from indigenous, plantation softwood and plantation hardwood forests (under bark) excluding fuel wood removal for domestic and commercial consumptions
Wood fuel removal	Includes all fuel wood removals for commercial and domestic consumptions and excluding charcoal and mangroves removals

11.2.3 Original data

National Class (1000 m ³)	2001	2002	2003	2004	2005	2006	2007
Indigenous	98.846	101.971	132.293	101.859	104.484	79.480	45.122
Softwood	100.087	227.316	284.121	315.655	335.719	326.821	336.111
Hardwood	7.416	3.822	15.753	16.910	17.406	37.216	50.092
Wood fuel	3.741	7.374	6.005	199.622	206.107	200.749	215.512

Note: Volume under bark

VALUES (F\$000)	2001	2002	2003	2004	2005	2006	2007
Round Logs	2,181,973.26	3,159,390.60	4,313,462.00	3,490,821.00	3,808,604.00	2,566,464.48	2,826,328.82
Wood fuel	7,958.33	20,146.29	6,024.95	14,625.00	10,683.00	12,830.40	12,861.93

11.3 Analysis and processing of national data

11.3.1 Calibration

11.3.2 Estimation and forecasting

National Class	1990	2000	2005	2010
Indigenous	127.629	107.106	92.647	100.000
Plantation Softwood	113.439	141.997	319.685	500.000
Plantation Hardwood	35.734	0.169	27.475	100.000
Wood Fuel	14.425	1.188	165.599	166.787
Total	291.227	250.46	605.406	866.787

*1990 and 2000 data extracted from FRA2005.

*data for 2005 is the average for 2003-2007.

11.3.3 Reclassification into FRA 2010 categories

National Class	Industrial wood removal	Wood fuel removal
Indigenous	100%	
Plantation Softwood	100%	
Plantation Hardwood	100%	
Wood Fuel		100%

11.4 Data for Table T11

FRA 2010 Category	Industrial round wood removals				Wood fuel removals			
	1990	2000	2005	2010	1990	2000	2005	2010
Total volume (1000 m ³ u.b.)	318.322	286.662	505.778	805	16.588	22.42	190.438	191.805
... of which from forest								
Unit value (local currency / m ³ u.b.)	65	72	80	89	7	8	9	10
Total value (1000 local currency)	20,691	20,640	40,462	71,645	116	179	1,714	1,918

Note: The figures for the reporting years refer to the averages of annually affected areas for the 5-year periods 1988-1992, 1998-2002 and 2003-2007 respectively.

	1990	2000	2005
Name of local currency	FJD	FJD	FJD

11.5 Comments to Table T11

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Total volume of industrial round wood removals	Volumes for round logs under bark and sourced from indigenous and plantation forests	Volumes removed are expected to increase for mahogany due to new sawmills and logging contractors entering. Also softwood volumes expected to rise when an additional processing plant comes on line
Total volume of wood fuel removals	Volumes for all types of fuel wood excluding charcoal and poles	The increase in fuel wood intake is due to the heavy reliance by manufacturing industries on hog fuel. This is mainly due to the rising fuel costs
Unit value	Based on local currency/m ³ under bark	Unit value is estimated backwards from current best estimate of current log prices.
Total value	Total value of logs from indigenous and plantation forests	Total value is derived from the averages of the reporting years for the 5 year periods.

Other general comments to the table

12 Table T12 – Non-wood forest products removals and value of removals

Information is not available for this reporting table.

13 Table T13 – Employment

13.1 FRA 2010 Categories and definitions

Category	Definition
Full-time equivalents (FTE)	A measurement equal to one person working full-time during a specified reference period.
Employment	Includes all persons in paid employment or self-employment.
Paid employment	Persons who during a specified reference period performed some work for <u>wage or salary</u> in cash or in kind.
Self-employment	Persons who during a specified reference period performed some work for <u>profit or family gain</u> in cash or in kind (e.g. employers, own-account workers, members of producers' cooperatives, contributing family workers).

13.2 National data

13.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Forestry Facts & Figures (GTZ)1998	H		1999	Forestry Facts & Figures Fiji 1998.
Bureau of Statistics	H		1986-1990 1993-1996	Employment in the Forestry sector.
Forestry Annual Report	H		2001 - 2007	Employment in the Forestry sector

13.2.2 Classification and definitions

National class	Definition
Forestry	Includes all Forestry technical staff.
Logging	Includes employees in the logging industry, excluding owners.

13.2.3 Original data

National Class	2001	2002	2003	2004	2005	2006	2007
Forestry	183	281	291	155	163	219	149
Logging	982	982	912	1141	1338	1404	1250
Total	1165	1263	1203	1296	1491	1613	1399

13.3 Analysis and processing of national data

13.3.1 Calibration

13.3.2 Estimation and forecasting

National Class	1990	2000	2005	2010
Forestry	268	198	163	142
Logging	1998	1558	1338	1206
Total	303	232	1491	1399

*Note: Data on 1990 and 2000 extracted from FRA2005.

*Data for 2005 average from 2003-2007.

Growth in employment from 2000 to 2005 is due to the harvesting of mahogany plantations

Forestry – The decrease in staffing is due to the compulsory retirement at the age of 55 years

Logging – More jobs on logging as a result of mahogany harvesting and is still increasing based on pending applications from companies that wish to harvest and process mahogany including the new softwood processing plant that will come on line soon.

13.3.3 Reclassification into FRA 2010 categories

13.4 Data for Table T13

*No data available.

FRA 2010 Category	Employment (1000 years FTE)		
	1990	2000	2005
Employment in primary production of goods			
...of which paid employment			
...of which self-employment			
Employment in management of protected areas			

14 Table T14 – Policy and legal framework

14.1 FRA 2010 Categories and definitions

Term	Definition
Forest policy	A set of orientations and principles of actions adopted by public authorities in harmony with national socio-economic and environmental policies in a given country to guide future decisions in relation to the management, use and conservation of forest and tree resources for the benefit of society.
Forest policy statement	A document that describes the objectives, priorities and means for implementation of the forest policy.
National forest programme (nfp)	A generic expression that refers to a wide range of approaches towards forest policy formulation, planning and implementation at national and sub-national levels. The national forest programme provides a framework and guidance for country-driven forest sector development with participation of all stakeholders and in consistence with policies of other sectors and international policies.
Law (Act or Code) on forest	A set of rules enacted by the legislative authority of a country regulating the access, management, conservation and use of forest resources.

14.2 Data for Table T14

Indicate the existence of the following (2008)			
Forest policy statement with national scope	<input checked="" type="checkbox"/>	Yes	
	<input type="checkbox"/>	No	
If Yes above, provide:	Year of endorsement	2007	
	Reference to document	Fiji Forest Policy 2007	
National forest programme (nfp)	<input type="checkbox"/>	Yes	
	<input checked="" type="checkbox"/>	No	
If Yes above, provide:	Name of nfp in country		
	Starting year		
	Current status	<input checked="" type="checkbox"/>	In formulation
		<input type="checkbox"/>	In implementation
		<input type="checkbox"/>	Under revision
<input type="checkbox"/>		Process temporarily suspended	
Reference to document or web site	Currently being formulated by the Forestry Department		
Law (Act or Code) on forest with national scope	<input checked="" type="checkbox"/>	Yes, specific forest law exists	
	<input type="checkbox"/>	Yes, but rules on forests are incorporated in other (broader) legislation	
	<input type="checkbox"/>	No, forest issues are not regulated by national legislation	
If Yes above, provide:	Year of enactment	1990; 1992	
	Year of latest amendment	Forest Decree amendment started in 2008 to be completed in 2010; Review of the NCOLP is completed awaiting endorsement by Government.	
	Reference to document	Forest Decree 1992	

		National Code of Logging Practice 1990
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In case the responsibility for forest policy- and/or forest law-making is decentralized, please indicate the existence of the following and explain in the comments below the table how the responsibility for forest policy- and law-making is organized in your country.		
Sub-national forest policy statements		Yes
	√	No
If Yes above, indicate the number of regions/states/provinces with forest policy statements		
Sub-national Laws (Acts or Codes) on forest		Yes
	√	No
If Yes above, indicate the number of regions/states/provinces with Laws on forests		

14.3 Comments to Table T14

Variable / category	Comments related to data, definitions, etc.
Forest policy statement with national scope	There is only one Forest Policy Document for Fiji containing the Forest Policy Statement.
National forest programme (nfp)	Fiji is still in the process of setting up its National Forest Programme
Law (Act or Code) on forest with national scope	Forest Act (1953) Forest Guard Regulations Forest Decree 1992 Forest Sawmills Regulation 1968 Forest Preservative Treatment Regulation Fiji National Code of Logging Practice 1990
Sub-national forest policy statements	Fiji only have one level of forest policy and it is at national level
Sub-national Laws (Acts or Codes) on forest	There is no other sub national laws on forests

Other general comments to the table
Because of the small size of Fiji there is only one layer of legislation and that is at the national level.

In case the responsibility for forest policy- and/or forest law-making is decentralized, please indicate the existence of the following and explain in the comments below the table how the responsibility for forest policy- and law-making is organized in your country.	
Sub-national forest policy statements	Yes
	No
If Yes above, indicate the number of regions/states/provinces with forest policy statements	
Sub-national Laws (Acts or Codes) on forest	Yes
	No
If Yes above, indicate the number of regions/states/provinces with Laws on forests	

14.4 Comments to Table T14

Variable / category	Comments related to data, definitions, etc.
Forest policy statement with national scope	
National forest programme (nfp)	
Law (Act or Code) on forest with national scope	
Sub-national forest policy statements	
Sub-national Laws (Acts or Codes) on forest	

Other general comments to the table

15 Table T15 – Institutional framework

15.1 FRA 2010 Categories and definitions

Term	Definition
Minister responsible for forest policy-making	Minister holding the main responsibility for forest issues and the formulation of the forest policy.
Head of Forestry	The Head of Forestry is the Government Officer responsible for implementing the mandate of the public administration related to forests.
Level of subordination	Number of administrative levels between the Head of Forestry and the Minister.
University degree	Qualification provided by University after a minimum of 3 years of post secondary education.

15.2 Data for Table T15

Table 15a – Institutions

FRA 2010 Category	2009	
Minister responsible for forest policy formulation : please provide full title	Minister for Primary Industries - responsible for: Agriculture; Fisheries; and Forests	
Level of subordination of Head of Forestry within the Ministry		1 st level subordination to Minister Permanent Secretary for Fisheries and Forests
		2 nd level subordination to Minister Conservator of Forests
	x	3 rd level subordination to Minister Deputy Conservator of Forests (Head of the Forestry Department)
		4 th or lower level subordination to Minister Principal Forestry Officers (Head of Divisions)
Other public forest agencies at national level	Only one, (the Forestry Department)	
Institution(s) responsible for forest law enforcement	Forestry Department	

Table 15b – Human resources

FRA 2010 Category	Human resources within public forest institutions					
	2000		2005		2007	
	Number	%Female	Number	%Female	Number	%Female
Total staff	118	3	163	3	167	6
...of which with university degree or equivalent	10	30	15	27	9	22

Notes:

1. Includes human resources within public forest institutions at sub-national level
2. Excludes people employed in State-owned enterprises, education and research, as well as temporary / seasonal workers.

15.3 Comments to Table T15

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Minister responsible for forest policy formulation	There are two Permanent Secretaries that reports to the Minister of Forests: one for Agriculture; and one for Fisheries and Forests	
Level of subordination of Head of Forestry within the Ministry	Under the Permanent Secretary for Fisheries and Forests there are two Directors, the Director for Fisheries and the Conservator of Forests.	
Other public forest agencies at national level	The Department is the only agency that is solely responsible for forests at the national level.	
Institution(s) responsible for forest law enforcement	The Forestry Department is the only institution that is responsible for the enforcement of forest law.	
Human resources within public forest institutions	Mostly dominated by male staff in the past but now we are beginning to see more interests from females as well.	

Other general comments to the table

16 Table T16 – Education and research

16.1 FRA 2010 Categories and definitions

Term	Definition
Forest-related education	Post-secondary education programme with focus on forests and related subjects.
Doctor's degree (PhD)	University (or equivalent) education with a total duration of about 8 years.
Master's degree (MSc) or equivalent	University (or equivalent) education with a total duration of about five years.
Bachelor's degree (BSc) or equivalent	University (or equivalent) education with a duration of about three years.
Technician certificate or diploma	Qualification issued from a technical education institution consisting of 1 to 3 years post secondary education.
Publicly funded forest research centers	Research centers primarily implementing research programmes on forest matters. Funding is mainly public or channelled through public institutions.

16.2 National data

16.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Annual Reports	H		1999-2000 2001-2007	Data captured from annual reports of divisional forestry offices on staff movements/training

16.2.2 Original data

16.3 Analysis and processing of national data

16.3.1 Estimation and forecasting

16.4 Data for Table T16

FRA 2010 Category	Graduation ¹⁾ of students in forest-related education					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Master's degree (MSc) or equivalent	Nil	Nil	2	50	1	Nil
Bachelor's degree (BSc) or equivalent	Nil	Nil	4	25	1	Nil
Forest technician certificate / diploma	Nil	Nil	15	13	18	28
FRA 2010 Category	Professionals working in publicly funded forest research centres ²⁾					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Doctor's degree (PhD)	Nil	Nil	Nil	Nil	Nil	Nil
Master's degree (MSc) or equivalent	Nil	Nil	2	25	1	Nil
Bachelor's degree (BSc) or equivalent	9	33	15	13	9	22

Notes:

1. Graduation refers to the number of students that have successfully completed a Bachelor's or higher degree or achieved a certificate or diploma as forest technician.
2. Covers degrees in all sciences, not only forestry.

16.5 Comments to Table T16

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Graduation of students in forest-related education		The increase is due to the graduating students from the Forestry Training Centre who graduated with a Forest Technician Certificate
Professionals working in public forest research centres	Includes all degrees in sciences relating to forestry	The downward trend results from the unavailability of forestry scholarships for overseas studies. The existing scholarship offered by the government caters for both categories of the employment classes and not specifically targeting the upskilling of forestry staff

Other general comments to the table

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17 Table T17 – Public revenue collection and expenditure

17.1 FRA 2010 Categories and definitions

Category	Definition
Forest revenue	All government revenue collected from the domestic production and trade of forest products and services. For this purpose, forest products include: roundwood; sawnwood; wood-based panels; pulp and paper; and non-wood forest products. As far as possible, this should include revenue collected by all levels of government (i.e. central, regional/provincial and municipal level), but it should exclude the income of publicly owned business entities.
Public expenditure	All government expenditure on forest related activities (further defined below).
Operational expenditure (sub-category to Public expenditure)	All government expenditure on public institutions solely engaged in the forest sector. Where the forest administration is part of a larger public agency (e.g. department or ministry), this should only include the forest sector component of the agency's total expenditure. As far as possible, this should also include other institutions (e.g. in research, training and marketing) solely engaged in the forest sector, but it should exclude the expenditure of publicly owned business entities.
Transfer payments (sub-category to Public expenditure)	All government expenditure on direct financial incentives paid to non-government and private-sector institutions, enterprises communities or individuals operating in the forest sector to implement forest related activities.
Domestic funding	Public expenditure funded from domestic public financial resources, including: retained forest revenue; forest-related funds; and allocations from the national budget (i.e. from non-forest sector public revenue sources).
External funding	Public expenditure funded from grants and loans from donors, non-governmental organisations, international lending agencies and international organisations, where such funds are channelled through national public institutions.

17.2 National data

17.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Forestry Department Annual Report	H		2005	

17.2.2 Classification and definitions

National class	Definition
Forest revenue	All government revenue collected from the domestic production and trade of forest products and services. For this purpose, forest products include: roundwood; sawnwood; wood-based panels; pulp and paper; and non-wood forest products. As far as possible, this should include revenue collected by all levels of government (i.e. central, regional/provincial and municipal level), but it should exclude the income of publicly owned business entities.
Domestic funding	Public expenditure funded from domestic public financial resources, including: retained forest revenue; forest-related funds; and allocations from the national budget (i.e. from non-forest sector public revenue sources).

17.2.3 Original data

FRA 2010 Categories	Revenues (1000 local currency)FJD
	2005
Forest revenue	3819.286

17.3 Analysis and processing of national data

17.3.1 Calibration

17.3.2 Estimation and forecasting

17.3.3 Reclassification into FRA 2010 categories

17.4 Data for Table T17

Table 17a - Forest revenues

FRA 2010 Categories	Revenues (1000 local currency)FJD		
	2000	2005	2010
Forest revenue	431.469	3819.286	3500

Table 17b - Public expenditure in forest sector by funding source

FRA 2010 Categories	Domestic funding (1000 local currency)		External funding (1000 local currency)		Total (1000 local currency)	
	2000	2005	2000	2005	2000	2005
Operational expenditure	3894.253	9704.491			3894.253	9704.491
Transfer payments						
Total public expenditure	3894.253	9704.491			3894.253	9704.491
If transfer payments are made for forest management and conservation, indicate for what specific objective(s) - Please tick all that apply.	<input type="checkbox"/>	Reforestation				
	<input checked="" type="checkbox"/>	Afforestation				
	<input type="checkbox"/>	Forest inventory and/or planning				
	<input type="checkbox"/>	Conservation of forest biodiversity				
	<input type="checkbox"/>	Protection of soil and water				
	<input type="checkbox"/>	Forest stand improvement				
	<input type="checkbox"/>	Establishment or maintenance of protected areas				
	<input type="checkbox"/>	Other, specify below				

17.5 Comments to Table T17

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Forest revenue	Sources of Revenue: <ul style="list-style-type: none"> - Timber scaling fees - Joinery Items - Chemical Analysis test - Sale of Publication (including Logging Plan and Volume Assessment) and Park fees 	
Operational expenditure	Funding of Annual Forestry programmes	
Transfer payments	Funding of Forestry Extension Programmes with funds transferred from Government to the Private Sector.	

Other general comments to the table